

PCT

10/542926

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 27257	FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/IL2004/000067	International filing date (day/month/year) 22/01/2004	(Earliest) Priority Date (day/month/year) 23/01/2003
Applicant RAMOT AT TEL AVIV UNIVERSITY LTD.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 9 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☒ **Unity of invention is lacking** (see Box III).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the drawings,

a. the figure of the **drawings** to be published with the abstract is Figure No. 2

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

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International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 40
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-16, 25-39

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Claims Nos.: 40

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16,25-39

Processor in communication with said input mechanism and said thermal output receiver and configured to receive said thermal output from said thermal output receiver and to adjust said input mechanism so as to adjust said input to the targeted tissue based on said thermal output, and wherein said receiving and adjusting is performable during a real-time procedure

2. claims: 17-24

Flexible hollow wave guide placed in the endoscope conduit, wherein said waveguide comprises a hollow tube, a metal layer on the inner surface of the hollow tube, and a thin dielectric film of silver iodide over said metal layer

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International Application No

T/IL2004/000067

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61B1/04 A61B18/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 445 157 A (ADACHI RENSUKE ET AL) 29 August 1995 (1995-08-29) cited in the application figure 1	1-16, 25-39
Y	----- WO 02/102262 A (CARL ZEISS MEDITEC AG ;SCHROEDER ECKHARD (DE); ELBRECHT JENS (DE);) 27 December 2002 (2002-12-27) page 13, line 5 - line 20	1-16, 25-39
Y	----- US 2001/051783 A1 (LAX RONALD G ET AL) 13 December 2001 (2001-12-13) paragraph [0059] paragraph [0067] - paragraph [0072]	1-16, 25-39
Y	----- US 2003/004430 A1 (BEARMAN GREGORY H ET AL) 2 January 2003 (2003-01-02) paragraph [0083] - paragraph [0085] ----- -/-	1-16, 25-39

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

3 June 2004

Date of mailing of the international search report

06. 08 2004

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International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 103 804 A (ABELE JOHN E ET AL) 14 April 1992 (1992-04-14) figures 2,4 -----	1-16, 25-39
A	WO 02/32334 A (DANEK CHRISTOPHER JAMES ;BIGGS MICHAEL (US); HAUGAARD DAVE (US); B) 25 April 2002 (2002-04-25) page 33 - page 34 page 43 - page 47 -----	1-16, 25-39
A	US 2001/039415 A1 (FRANCISCHELLI DAVID E ET AL) 8 November 2001 (2001-11-08) paragraph [0098] - paragraph [0100] -----	1-16, 25-39
A	US 6 419 626 B1 (YOON INBAE) 16 July 2002 (2002-07-16) abstract; figure 9 -----	1
P,X	WO 03/026719 A (BLIWEIS MORDECHAI ;GALIL MEDICAL LTD (IL); AMIR URI (IL); SCHECHTE) 3 April 2003 (2003-04-03) the whole document -----	1
P,X	GOREN A, DAYAN A, GANNOT I: "Transendoscopic laser based surgical procedure within body cavities" OPTICAL FIBERS AND SENSORS FOR MEDICAL APPLICATIONS III, PROCEEDINGS OF SPIE, vol. 4957, 25 January 2003 (2003-01-25), - 27 January 2003 (2003-01-27) pages 34-45, XP002282445 the whole document -----	1

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Information on patent family members

International Application No

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INTERNATIONAL SEARCH REPORT

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International Application No

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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A control system (100) for minimally invasive surgery, and more particularly, for laser surgery using infrared laser (140) is provided. A feedback mechanism is provided to obtain thermographic information from the targeted site (110) and a processor (235) uses this thermographic information to monitor and control input parameters, including air flow, suction, and laser beam parameters. Furthermore, an infrared imaging fiber bundle (240) is used in combination with an infrared camera (250) to provide the thermographic information to the processor.

Specifically, the system and methods provided can be used to more effectively present very specific wavelengths of laser treatment, with capability of monitoring its effects and altering parameters at the time of treatment. Furthermore, means for thermographic analysis of the targeted area, wherein such analysis provides a guideline for the monitoring and altering of the controllable parameters is provided.